

ECE 530 Cloud Computing

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What is the Cloud?

Cloud Basics

- Cloud Characteristics
- Service Models
 - IaaS
 - PaaS
 - SaaS
- Deployment Models
 - Public
 - Private
 - Community
 - Hybrid

Cloud Computing Characteristics

Common Characteristics:

Massive Scale

Resilient Computing

Homogeneity

Geographic Distribution

Virtualization

Service Orientation

Low Cost Software

Advanced Security

Essential Characteristics:

On Demand Self-Service

Broad Network Access

Rapid Elasticity

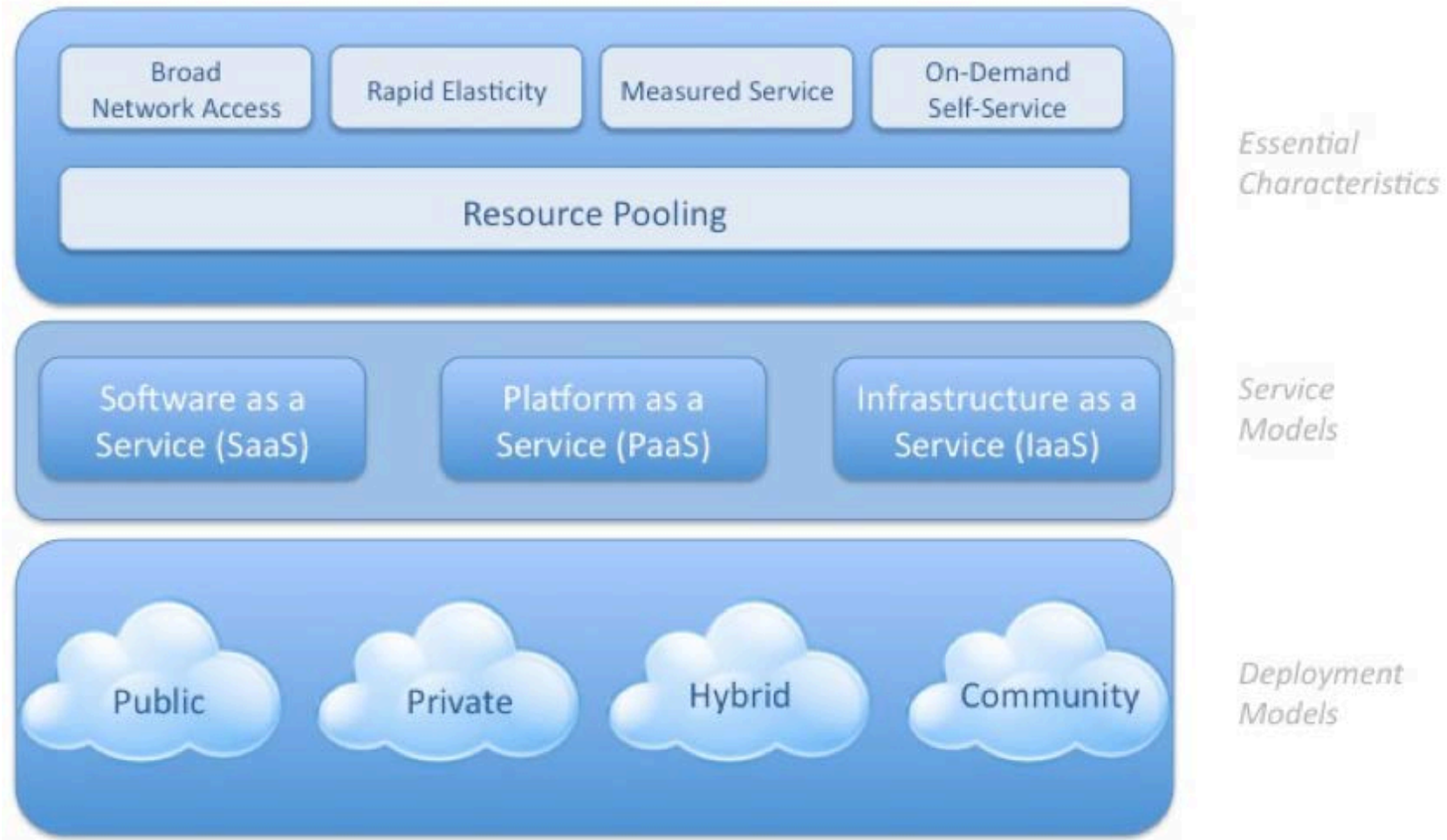
Resource Pooling

Measured Service

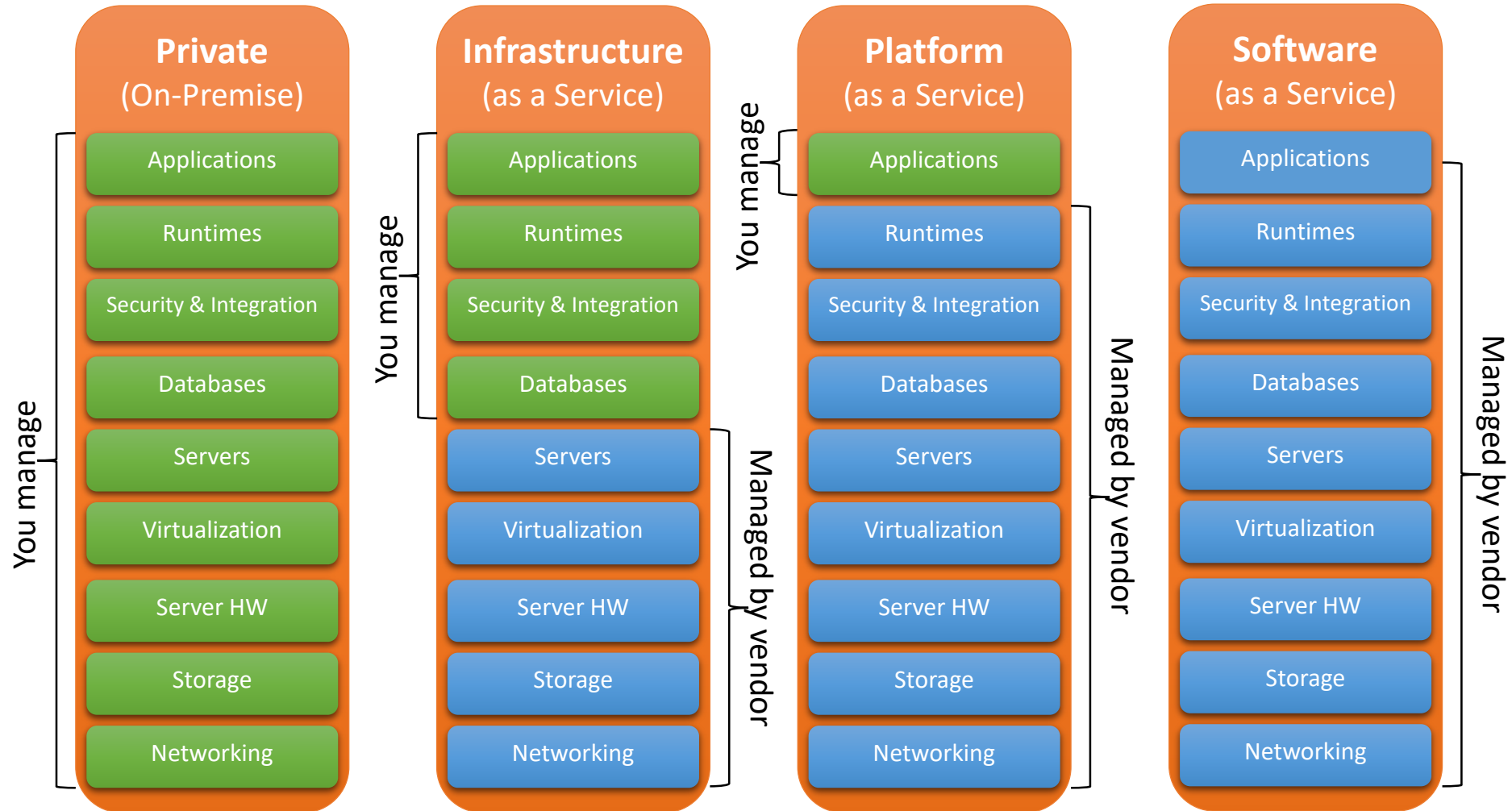
Cloud Characteristics

Visual Model Of NIST Working Definition Of Cloud Computing

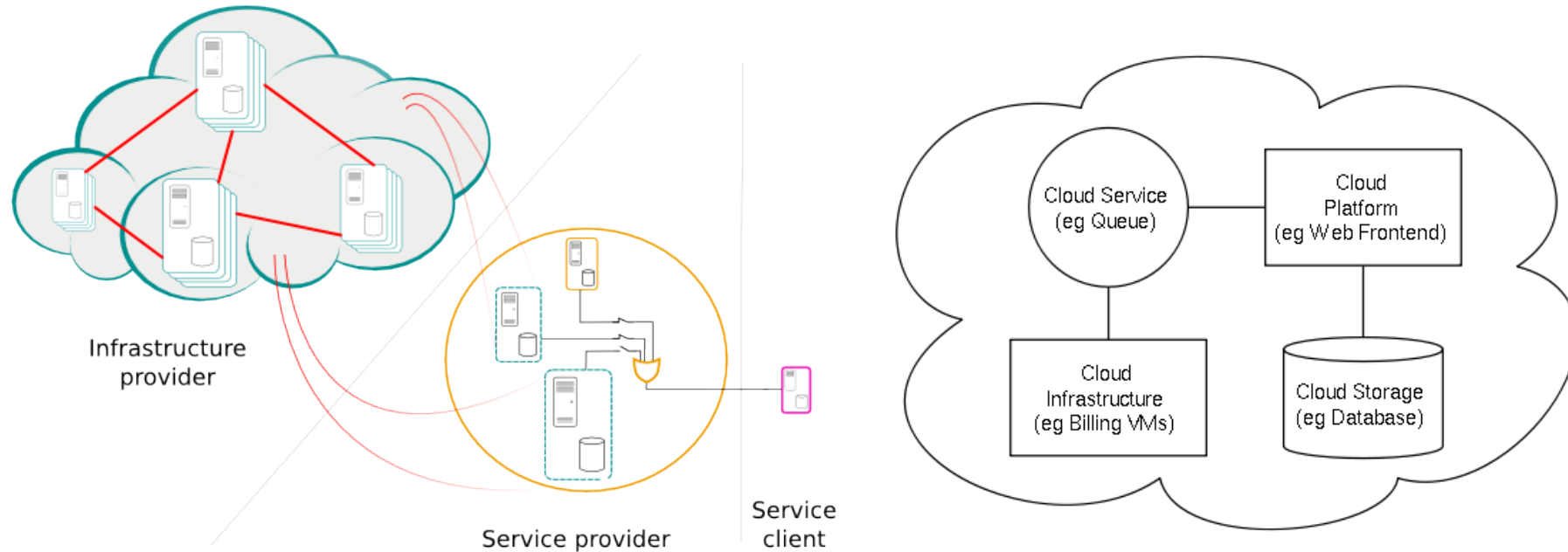
<http://www.csrc.nist.gov/groups/SNS/cloud-computing/index.html>



Types of Clouds



Cloud Architecture



- Cloud computing, or in simpler shorthand just "**the cloud**", also focuses on maximizing the effectiveness of the shared resources.
- Cloud resources are usually not only shared by multiple users but are also dynamically reallocated per demand.
- For example, a cloud computer facility that serves European users during European business hours with a specific application (e.g., email) may reallocate the same resources to serve North American users during North America's business hours with a different application (e.g., a web server).